

REMARKS

A petition for a further one month extension of time has today been filed as a separate paper and a copy is attached hereto.

With regard to the amendment to claim 1, "support" therefor is found in the description of the synthesis of the heat-reactive resin in the paragraph bridging pages 15 and 16 of the Substitute Specification (page 18 of original). There, applicants describe preparation of the heat-reactive resin as a radical polymerization in that the synthesis is described as employing a well-known radical polymerization initiator, i.e., a,a'-azobis(isobutyronitrile), also known as "AIBN." See, for example, U.S. 2005/0008893 A1 and U.S. 6,190,684 (See Attachment Nos. 1 and 2 filed with applicants' response of February 28, 2005). As is well known in the art, such radical polymerization proceeds through double-bond cleavage without involvement of other functional groups, i.e., the hydroxyl groups of the monomers. Thus, heat-reactive resin product of the free radical polymerization would retain the hydroxyl groups of the monomer from which it is derived. See "Polymer Synthesis" attached to applicants' response of February 28, 2005 (Attachment No.3).

1. Even if a curable compound of Mori et al were to be incorporated into the adhesive layer of JP '097, the result would not be an adhesive layer containing heat-reactive copolymer resin obtained by free radical polymerization, (and therefore not containing free hydroxyl groups).

At the bottom of page 5 of the final office action of October 1, 2004 the examiner acknowledged that the curable phosphazene compounds of Mori et al do not contain free hydroxyl groups but also noted that applicants' claims do not require the presence of free hydroxyl groups in the heat-reactive copolymer resin. However, the description of the copolymer resin as being "heat-reactive" requires the presence of heat-reactive groups in the copolymer resin. In Mori et al, after polymerization of the phosphazene compound (I), through the unsaturated bonds as taught at column 2, lines 55-61 of Mori et al, the resulting polymer contains no heat-reactive unsaturated bonds because those bonds are cleaved in the formation of the polymer. However, by the present amendments, applicants further distinguish their invention from anything suggested by the combined reference teachings by specifying that the copolymer is a copolymer obtained by free radical polymerization of monomers including a hydroxyl containing acrylate monomer and thereby inherently defining the copolymer as one obtained by reaction through the double-bond without participation of the hydroxyl group and therefore inherently containing free hydroxyl groups.

At the top of page 6 of the final action the examiner also noted the disclosure at column 4, lines 57-60 of Mori et al which reads:

Polyurethane acrylates can be obtained, for example, by reacting an isocyanate compound such as tolylene diisocyanate with an acrylate having a pendant hydroxyl group.

It is the acrylate monomer reactant which is described as having the pendant hydroxyl

group, not the polyurethane acrylate prepolymer obtained therefrom. Indeed, the acrylate must react through the pendant hydroxyl group (thereby eliminating same from the product) because the product (polyurethane acrylate) is described as an acrylate, i.e., as having intact acrylate groups. As evidence that the hydroxy acrylate reacts with the diisocyanate through its hydroxyl group, see the abstract of U.S. 4,480,079 (Attachment No. 6 with applicants' response of February 28, 2005).

Further, the polyurethane acrylate is described by Mori et al as a "prepolymer" (column 4, lines 29-34) and, as such, would not have a molecular weight as high as 50,000. See, for example, column 2, lines 44-47, and column 3, lines 11-15 of U.S. 4,608,400 (Attachment No. 7 with applicants' previous response). In paragraph 2 at page 2 of the Advisory Action of March 25, 2005, the examiner stated, with regard to applicants' interpretation of "prepolymer": "In particular it should be noted that in the absence of factual support, applicants' argument cannot take place of evidence." It is respectfully submitted that evidence was introduced into the record to support applicants' argument. That evidence is in the record in the form of U.S. patent 4,608,400 which discloses a polyurethane acrylate reactant (prepolymer) as having an average molecular weight of 1,000 to 10,000 (column 2, lines 44-46).

2. The references are not *prima facie* combinable in the manner adopted by the examiner.

Applicants do not deny that JP '097 and Mori et al "are directed to the same field

of endeavor" as pointed out by the examiner at the top of page 5 of the final action and again in the Advisory Action of March 25, 2005. However, the fact that the references are for the same field of endeavor is not a license to combine teachings absent some reason or motivation to do so. Stated differently, identity of field of endeavor does not permit any teaching to be properly combined with any other teaching in any manner conceivable.

Japanese '097 discloses a transfer sheet having a cured resin layer and an adhesive layer. The adhesive layer in the transfer sheet must be the outermost layer when applied to the surface to which the cured resin layer is to be transferred. Thus, after transfer and removal of the release sheet, the cured resin layer becomes the outermost layer on the surface to which it was transferred. In this regard, the relative positions of the adhesive layer and cured layer as disclosed in Japanese '097 would be identical to the arrangement in any other transfer sheet including that claimed here. See, for example, the teaching of paragraph [0015] of applicants' Substitute Specification.

Thus, applicants' protective layer 31 must be positioned relative to the adhesive layer as defined by claim 1 so that, upon transfer, the protective layer becomes "the uppermost layer of the protective film after it is transferred to the image surface of a photomask" ([0026]). Otherwise, the protective layer cannot perform its intended function of protecting the substrate to which it is transferred. See paragraph [0002] of applicants' Substitute Specification. The teachings of Mori et al are in accord. At column

1, lines 34-37 Mori et al teach:

Generally, a protective film, for prevention of damage to the pattern and to impart durability, is used over the materials used for forming a pattern, such as a photo mask and lith film.

Thus, the teachings of Mori et al are directed to a protective film providing good "wear resistance" and "hardness" which are the criteria that Mori et al use in evaluation of their protective film products. See the tests for "wear resistance" and "pencil hardness" described in column 7 and the evaluations of the Mori et al products for same set forth in Tables 1-3.

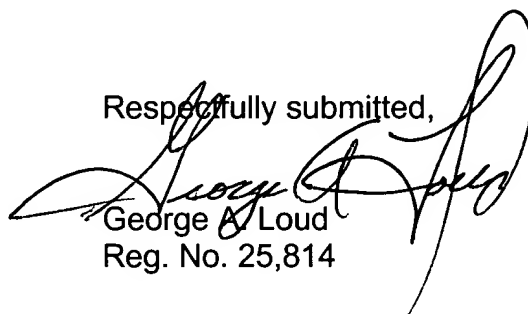
Accordingly, it is respectfully submitted that while a legitimate argument might be made that it would have been obvious to incorporate the compounds disclosed by Mori et al into the "cured resin layer" of Japanese '097, it would have been nonsensical for one skilled in the art to incorporate components of the Mori et al film which are intended to provide high "wear resistance" and "hardness" into the adhesive layer of Japanese '097 which is not designed to provide either "wear resistance" or "hardness", properties totally irrelevant to the only purpose and function of the adhesive layer of Japanese '097.

As the examiner has noted in the past, Japanese '097 teaches that the resin used as the curable adhesive layer can be the same as that used to form the "cured resin layer". However, assuming that both layers of the transfer sheet of Japanese '097 contain an ionizing radiation curable resin, given the teachings of the references, it

would have made sense only to add or substitute the compounds of Mori et al into that layer which would form the outermost layer after transfer to the surface to be protected. Stated differently, the only logical application of the teachings of Mori et al to the transfer sheet of Japanese '097 would modify the cured resin layer located between the release sheet and the "curable adhesive layer." Such a modification would not lead to the present invention wherein the protective layer is laminated to the support and therefore located intermediate the support and the adhesive layer.

In conclusion, it is respectfully requested that the examiner reconsider the rejection of record with a view toward allowance of the claims as amended.

Respectfully submitted,



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